



Magnetic HVAC Return Grille Mount

Written By: Sean Michael Ragan



TOOLS:

- [Drill \(1\)](#)
- [Pencil \(1\)](#)
- [Phillips screwdriver \(1\)](#)



PARTS:

- [Rare earth magnets \(1\)](#)
- [T-nuts \(1\)](#)
- [Adhesive foam disks \(1\)](#)
- [Hole plugs \(1\)](#)
- [Screws \(1\)](#)
- [Screws \(1\)](#)

SUMMARY

The return grille mounting in my new house was very sloppy, with a mixture of Molly bolts, toggle bolts, and bare screws in drywall. The sloppy workmanship annoyed me, and made swapping the filter way more work than it needed to be, so I came up with this no-tools fix. It could easily be adapted to any steel maintenance panel.

Step 1 — Gather materials.



- The critical parts are the ring magnets with one face countersunk to allow a screw head to sit flush. I used Magcraft part NSN0587, which includes 6 such magnets. I used all 6, as well as the plastic spacers that come with them. There are only four of these.
- There are actually a couple different hardware bits called "T-nuts." The kind you want is shown in the photo--a threaded spacer with a disc with sharp prongs folded up at one end.
- The sticky-back foam pads are used to prevent shock to the supermagnets when the grille is attached; they may not be necessary.

Step 2 — Mark grille outline and remove.



- In my case, years of repainting had left a clear outline of where the grille edges meet the wall, so marking the wall was not necessary. If your wall is not pre-marked, trace the outline of the grille lightly on it with a pencil.
- Remove whatever screws are holding the grille in place. Set the grille and the filter aside. The old screws can go in your junk bucket.

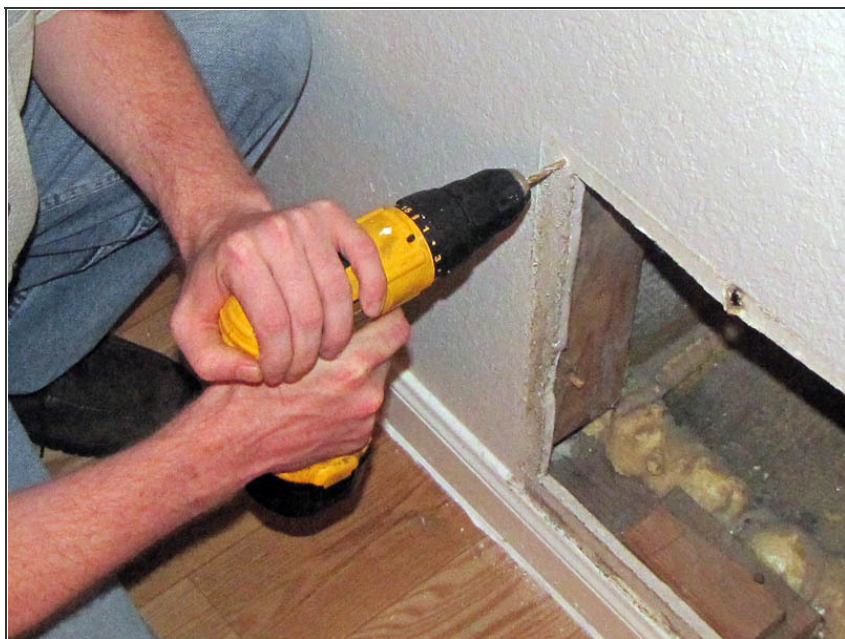
Step 3 — Mark drill spots.



- Position one of the magnets wherever you want to mount one, and use a marker to trace the location of the hole on the wall.
- Be sure to leave enough clearance between the outline of the grille and the magnet to allow for the thickness of the grille wall.



Step 4 — Drill holes.



- Start each hole with a 1/16" pilot drill. If you hit wood behind the wallboard, just leave the 1/16" diameter hole. Otherwise, change drill bits and enlarge the pilot holes.
- Use a twist drill big enough to pass the shaft of the T-nut. 13/64" was just right in my case.

Step 5 — Insert T-nuts.



- Reach in through the opening in the wallboard and insert the shaft of a T-nut into each of the holes you've drilled.
- Press the prongs into the back surface of the wallboard.
- If a hole penetrates a stud or other interstitial wood, a T-nut is not necessary.



Step 6 — Tighten screws.



- Put a screw through the hole in a ring magnet, making sure the countersink is on the right side.
- Guide the shaft of the screw through one of the plastic spacers that came with the magnets, or a spare plastic or rubber washer of equal thickness.
- If a hole is backed by wood, use a wood screw instead of a machine screw.
- Tighten down the screw until the spacer and magnet are snug against the wall. Don't overtighten!



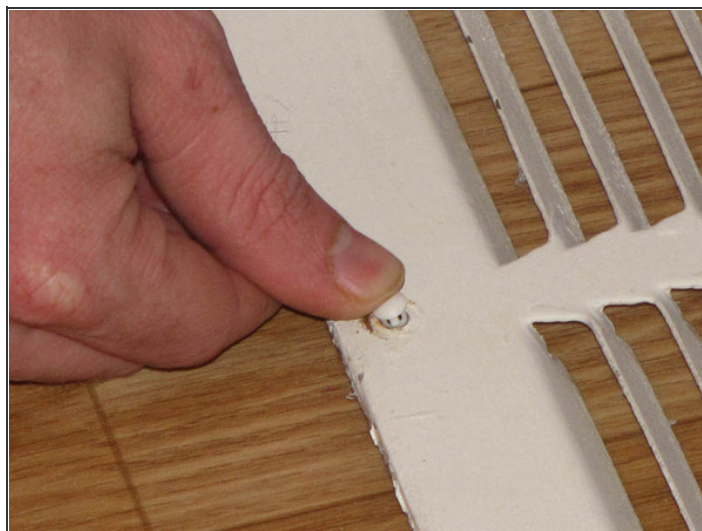
Step 7 — Apply foam pads.



- Peel a foam pad off of its backing and stick it over the head of the screw and the ring magnet.
- These foam pads are intended to protect the supermagnets, which can be brittle, against shock when the grille is attached. They may not be necessary, and depending on the thickness of your grille and its rim, you may want or need to omit them. Ditto the backside plastic spacers.



Step 8 — Plug old grille holes



- The holes in my return grille were 3/16" across. I found push-in locking nylon plugs at Home Depot that fit these perfectly.



Step 9 — Reattach grille



- Gently put the grille back in place and test the fit.
- I used all six supermagnets that came in the package, but on final analysis I think just four--with one in each corner--would've been enough.



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